

1. A method for preparing a catalyst comprising a zeolite and a low acidity refractory oxide binder which is essentially free of alumina comprising:

- (a) preparing an extrudable mass comprising a substantially homogenous mixture of zeolite, water, a source of the low acidity refractory oxide binder present which comprises an acid sol, and an amine compound,
- (b) extruding the extrudable mass resulting from step (a),
- (c) drying the extrudate resulting from step (b); and,
- (d) calcining the dried extrudate resulting from step (c).

2. The method of claim 1 wherein step (a) is performed by first mixing the zeolite and the acid sol into a first homogeneous mixture and subsequently adding the amine compound to the first homogeneous mixture such that the pH of the resulting second mixture is raised from below 7 to a value of above 8.

- 3. The method of claim 2 wherein the amine compound is added in step (a) within 20 minutes of performing step (b).
- 4. The method of claim 1 wherein the zeolite content, on a dry basis, is below 50 wt% as calculated on the finished catalyst and wherein the low acidity refractory oxide source used to prepare the extrudable mass in step (a) further comprises a powder of the low oxide refractory source.

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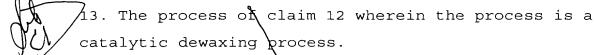
- 5. The method of claim 1 wherein the low acidity refractory oxide binder is silica.
- 6. The method of claim 5 wherein the low acidity refractory oxide source used to prepare the extrudable mass in step (a) further comprises a powder of silica.
- 77. The method of claim 1 wherein the amine compound is ammonia.
- 8. The method of claim 1 wherein the zeolite is selected from the group consisting of ZSM-5, ZSM-12, ZSM-22, ZSM-23, and SZZ 32.
- 9. The method wherein the catalyst produced by the method according to claim 1 is subjected to a dealumination treatment.
- 10. The method according to claim 9 wherein the dealumination treatment is performed by a process in which the zeolite is contacted with an aqueous solution of a fluorosilicate salt wherein the fluorosilicate salt is represented by the formula:

 $(A)_2 h SiF_6$ 

wherein A is a metallic or non-metallic cation other than H+ having the valence .

- 11. The method wherein a catalyst prepared by the method of claim 1 is subjected to a cation exchange treatment wherein a palladium, platinum or nickel metal is loaded on the catalyst.
- 12. A process for hydroprocessing a hydrocarbon feedstock comprising the steps of contacting said hydrocarbon feedstock with the catalyst produced according to the method of claim 1 at an elevated temperature and pressure optionally in the presence of hydrogen.

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- 14. The process of chaim 12 wherein the process is a xylene isomerization process.
- 15. A hydroprocessing catalyst comprising a zeolite and a low acidity refractory oxide binder which is essentially free of alumina produced by the process of claim 1.
- 16. The hydroprocessing catalyst of claim 15 comprising a zeolite, a low acidity refractory binder which is essentially free of alumina and at least one Group VIII metal cation.

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